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REMARKS

This paper is responsive to any paper(s) indicated above, and is responsive in any other manner indicated below.

INFORMATION DISCLOSURE STATEMENT - ALL ART CONSIDERED

With respect to the section numbered "1" on page numbered "2" of the Detailed Action portion of the Office Action, i.e., with respect to the Indication that "unless ...[specification-listed art has] been cited by the examiner on a form PTO-892, they have not been considered", it is respectfully noted that all specification-listed art have been listed on Form(s) PTO-1449, PTO/SB/08, or PTO-892, and have been Examiner-initialed indicating consideration thereof. Accordingly, no further IDS is needed with respect to specification-listed art.

PENDING CLAIMS

Claims 11-26 were pending, under consideration and subjected to examination in the Office Action. Appropriate claims have been amended, canceled and/or added (without prejudice or disclaimer) in order to adjust a clarity and/or focus of Applicant's claimed invention. Such changes are unrelated to any prior art or scope adjustment and are simply cancellation of any prior claim(s) (without prejudice or disclaimer) in favor of substitute claims having better clarity/focus toward the embodiment in which Applicant is presently interested. Any canceled claim(s) may be pursued within a continuing application. At entry of this paper,

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Claims 27-35 will be pending for further consideration and examination in the application.

CLAIM OBJECTIONS OBSOLETE VIA CLAIM CANCELLATION

Claims 11-26 have been objected to because of the Office Action concerns listed within the section numbered "2" on the page numbered "2" of the Office Action. As such objection has been rendered obsolete by the present cancellation of the objected-to claims in favor of replacement claims, reconsideration and withdrawal of the objection are respectfully requested.

REJECTION UNDER 35 USC '103

All 35 USC '103 rejections (i.e., the 35 USC '103 rejection of claims 11-13 and 19-21 as being unpatentable over Fukuda (JP 9-17770-A) in view of Arasawa et al. (U.S. Patent Re. 36810); and the 35 USC '103 rejection of claims 14-18 and 22-26 as being unpatentable over Fukuda (JP 9-17770-A) in view of Arawsawa et al. (U.S. Patent Re. 36810) and further in view of Lue et al. (U.S. Patent 5,761,023)) are respectfully traversed. However, such rejections have been rendered obsolete by the present clarifying amendments to Applicant's claims, and accordingly, traversal arguments are not appropriate at this time. However, Applicant respectfully submits the following to preclude renewal of any such rejections against Applicant's clarified claims.

All descriptions of Applicant's disclosed and claimed invention, and all descriptions and rebuttal arguments regarding the applied prior art, as previously submitted by Applicant in any form, are repeated and incorporated hereat by

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reference. Further, all Office Action statements regarding the prior art rejections are respectfully traversed. As additional arguments, Applicant respectfully submits the following.

Unrelated to any prior art rejection, claims 11-26 have now been canceled without prejudice or disclaimer, thus rendering any rejection of such claims obsolete at this time. Patentability of replacement ones of the claims are supported as follows.

In order to properly support a §103 obviousness-type rejection, the reference not only must suggest the claimed features, but also must contain the motivation for modifying the art to arrive at an approximation of the claimed features. However, the cited art does not adequately support a §103 obviousness-type rejection because it does not, at minimum, disclose (or suggest) the following limitations of Applicant's clarified claims as discussed in comments from Applicant's foreign representative in support of the patentability of Applicant's invention.

Clarified replacement claim 27 has the following structural features.

"(a) a plasma processing method for conducting a plurality of different processing on a film of a front side of a specimen placed on a mount surface of a specimen table disposed inside of a processing chamber using plasma generated in the processing chamber, the method comprising:

(b) adjusting an internal temperature of the specimen table formed of a heat conduction member so that a temperature in a central portion of the specimen table becomes higher than a temperature in an outer circumferential portion of the specimen table by a predetermined value;

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(c) generating a plasma including organic polymer by supplying a processing gas to the interior of the processing chamber, while, after the specimen is placed on the specimen table, supplying a heat conducting gas with a lower pressure to a space between the mount surface positioned above the central portion of the interior of the specimen table and a rear side of the specimen, and supplying a heat conducting gas with a higher pressure to a space between the mount surface positioned above the outer circumferential portion of the interior of the specimen table and the rear side of the specimen to adjust the heat conducting gas to a predetermined pressure difference in spaces of the central portion and the outer circumferential portion of the rear side of the specimen;

(d) processing the film by applying a bias electric power to the specimen table as a first processing; and

(e) processing the film while adjusting a pressure of the heat conducting gas between the spaces of the central portion of the specimen and the outer circumferential portion of the specimen in the space between the rear side of the specimen and the specimen table to a value different from the predetermined pressure difference in a state where the temperature in the central portion of the interior of the specimen table is higher than the temperature in the outer circumferential portion before or after the first processing step, as a second processing.

With the above structure, the present invention can obtain the actions and advantages described in the present specification that, in the case where a plurality of films on the front side of the specimen are processed, a time required to form the distribution of a temperature is reduced so as to improve the efficiency of the

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processing when the distribution of different temperatures on the specimen is going to be formed in correspondence with different processing characteristics required in each of the films to be processed.

Further details will be described as follows. That is, in the case where "the configuration large in the aspect ratio is processed while organic polymer is formed in a plasma and attached to a side wall", it is necessary to definitely generate the distribution of the temperature on the front side of the specimen, and the temperatures or the temperature difference of the central portion and the outer circumferential portion.

However, as a demand for fining the processing is more advanced, the density or intensity of the plasma generated within the processing chamber is further lessened. For that reason, in a technique where the respective pressures of the heat conducting gases that are supplied to a plurality of regions between the specimen table and the rear side of the specimen are made different from each other to adjust the amount of heat conduction and produce the temperature distribution of the specimen, it is difficult to produce a definite temperature difference.

On the other hand, in a technique where a plurality of passages of the cooling media are formed in a plurality of regions within the specimen table, and the temperature of the cooling media that flow in the respective regions is adjusted to form the temperature distribution on the specimen table and produce the temperature distribution on the specimen placed on the specimen table, the temperature distribution is lost due to the heat conduction between the plural

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regions. For that reason, there arises such a problem that it is difficult to generate the definite temperature distribution even in a conventional art.

For that reason, the present invention adopts the above structures (b), (c), and (d) to produce the definite temperature distribution on the specimen.

In addition, in the case of conducting different processing on another specimen to be processed which is disposed above or below the film to be processed by using the organic polymer, it is necessary to produce another (i.e., differing) temperature distribution with respect to the specimen because the different processing is conducted under another processing condition. Now, in "the technique embodying the different heat conduction characteristic in the spaces of the central portion and the outer circumferential portion between the rear side of the specimen and the mount surface of the specimen table in addition to the structure of adjusting the temperature to be different in the regions of the central portion and the outer circumferential portion in the interior of the specimen table", there are proposed a large number of combinations of the temperature distribution within the specimen table with the distribution of the heat conduction characteristic of the space at the rear side of the specimen in the generation of the same temperature distribution on the specimen. Unless a step of changing the temperature distribution is appropriately chosen under the circumstances where the fine processing is required, the processing efficiency is remarkably adversely affected.

That is, when the temperature distribution in the interior of the specimen table is merely changed from one to another, a response time (response) is much longer (the response is lower) than a response time for generating on the specimen the temperature distribution due to the heat conduction action of the heat conducting

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gas which is supplied to the rear side of the specimen, since the total thermal capacity of the specimen table and the cooling medium is remarkably larger than the thermal capacity of the heat conducting gas that is supplied to the specimen or the rear side of the specimen.

For that reason, in order to realize a temperature distribution necessary to process another film to be processed, when the temperature distribution in the interior of the specimen table is going to be changed to realize the necessary temperature distribution, it takes long time to obtain a desired temperature distribution. This causes such a problem that the specimen cannot be processed during that time, and the efficiency is greatly deteriorated.

The above problem occurs, for example, in the case of processing the film necessary to be processed by using the organic polymer after another film to be processed is processed.

Under the above circumstance, clarified claim 27, for example, includes the structures (b), (c), and (d) as well as the structure (e). The structure is characterized in that "the pressure distribution of the heat conducting gas on the rear side of the specimen is changed while maintaining the temperature distribution in the interior of the specimen table in conducting the first processing".

With the above structures, according to the present invention, the temperature distribution that is generated in the interior of the specimen table at the time of processing the film under the different conditions is prioritized, and a change in the temperature distribution in the interior of the specimen table is suppressed. As a result, it is possible to reduce a time necessary to change the temperature

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distribution during those processing and suppress the lessened processing efficiency when one specimen is subjected to plural different processing.

Differences of the present invention from the applied references are as follows. More particularly, concerning the Office Action comments, the Examiner is of the opinion that the above structure (a) is unpatentable over Fukuda in view of Arasawa et al, and the above structure (b) is unpatentable over Fukuda in view of Arasawa et al and Lue et al. However, Applicant respectfully submits that the Examiner's rejection is unreasonable. This is because the combination of the above references cannot include the structure of the present invention, and also cannot obtain the above actions and advantages of the present invention.

First, ones of the applied references merely set the temperature distribution necessary to process the specimen in advance by using the heat conducting gas or the cooling medium in the interior of the specimen table. However, such references disclose or suggest nothing as to the structure in which different specimen conditions must be set when plural different processing is conducted on the film on the front side of the specimen. Also, such references disclose or suggest nothing as to the object of the present invention, that it is necessary to change the conditions between the respective processing in order to realize the above conditions, and a resultant advantage where a time required to change the conditions is reduced. For that reason, none of those references includes the above structures (c), (d), and (e) of the present invention.

It is sure that Fukuda includes the structure in which the cooling media of different temperatures are supplied to the plural regions (central portion /outer circumferential portion) in the interior of the specimen table to generate the

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temperature distribution, and the structure in which one different heat conducting gas is supplied to the central portion and the outer circumferential portion on the rear side of the specimen. However, Fukuda does not consider the appropriate combination of the distributions (the temperature of the cooling media and the pressure of the heat conducting gases) in the respective regions in the interior of the specimen table and on the rear side of the specimen in the case where one specimen is subjected to different processing. Fukuda merely discloses any one of the temperature distribution in the interior of the specimen table, or the distribution of the gas pressure on the rear side of the specimen.

Also, even if the combination of the embodiments disclosed in any one of those references, and the results obtained by the combination, would be obvious to those skilled in the art, the resultant combination would still be differing from Applicant's combination invention in that it is an object of Fukuda is to realize uniform temperature on the front side of the specimen which is different from that of the present invention. In order to achieve the object, Fukuda includes the temperature of the different cooling media within the specimen table and the pressure distribution of the heat conducting gas.

Fukuda fails to teach that the temperatures on the central portion and the outer circumferential portion of the specimen are made different from each other, and the temperature distribution in the interior of the specimen table for realizing the temperature distribution which is higher in the central portion is combined with the pressure distribution of the heat conducting gas. In addition, Fukuda fails to teach or suggest how the temperature distribution in the interior of the specimen table and the pressure distribution of the heat conducting gas on the rear side of the specimen

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are changed in the case of conducting the plural processing including a process that requires the temperature distribution in which the central portion of the specimen is higher in the temperature.

For example, let us consider a case in which one processing is conducted by using organic polymer in the temperature distribution where the central portion of the specimen is higher in the temperature, and a subsequent processing is conducted in the distribution where the temperature is uniform on the specimen. Fukuda fails to teach the structure required for the former processing. Also, Fukuda fails to teach that any one of two manners should be selected, one manner being that the temperatures of the respective cooling media in the interior of the specimen table are uniformed to adjust the pressure distribution of the heat conducting gas on the rear side of the specimen, and another manner being that the pressure of the heat conducting gas on the rear side of the specimen is made uniform to change the temperatures of the respective cooling media in the interior of the specimen table to generate the temperature distribution and uniform the temperature of the specimen in the latter processing. In addition, Fukuda fails to teach how any one of the cooling medium and the heat conducting gas is changed between the former processing and the latter processing.

In addition, both of Arasawa et al and Lue et al teach nothing other than a structure in which the heat conducting gases of different pressures are supplied to the different regions on the rear side of the specimen in order to uniform the temperature distribution of one specimen before the specimen to be processed is processed.

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Those references do not consider the combination of the temperature distribution of the plural regions in the interior of the specimen table required for the respective processing or the distribution of the heat conducting gases in the plural regions (zones) on the rear side of the specimen, and the appropriate choice of those changes, as in Fukuda, in the case where plural different processing is conducted on one specimen, more particularly in the case where one of those processing processes the film by using organic polymer, and requires the combination of the temperature distribution having the higher temperature on the central portion in the interior of the specimen table with the pressure distribution of the heat conducting gas having the higher pressure on the outer circumferential portion.

As described above, none of the applied references teach or suggest the problem to be solved by the present invention, the object of the present invention, and the structure for solving the problem and achieving the object. Therefore, it would be difficult for those skilled in the art to achieve the present invention with the unique structure by the combination of the above respective references.

As a result of all of the foregoing, it is respectfully submitted that the applied art (taken alone and in the Office Action combinations) would not support a '103 obviousness-type rejection of Applicant's claims. Accordingly, reconsideration and withdrawal of such '103 rejection, and express written allowance of all of the '103 rejected claims, are respectfully requested.

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DOUBLE PATENTING REJECTION - TRAVERSED/NOT SUPPORTED

The non-statutory double patenting rejection is respectfully traversed because such rejection does not provide the factual analysis required for such rejections under U.S. patent law, i.e., the Examiner has not satisfied his/her initial burden to adequately support the rejection. More particularly, MPEP 804 providing guidance for examining states that

"Since the analysis employed in an obviousness-type double patenting determination parallels the guidelines for a 35 USC 103(a) rejection, the factual inquiries set forth in *Graham v. John Deere Co.*, 383 US 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 USC 103 are employed when making an obviousness-type double patenting analysis. These factual inquiries are summarized as follows:

- (A) Determine the scope and content of a patent claim and the prior art relative to a claim in the application at issue;
- (B) Determine the differences between the scope and content of the patent claim and the prior art as determined in (A) and the claim in the application at issue;
- (C) Determine the level of ordinary skill in the pertinent art; and
- (D) Evaluate any objective indicia of non-obviousness.

Any obviousness-type double patenting rejection should make clear:

- (A) The differences between the invention defined by the conflicting claims - a claim in the patent compared to a claim in the application; and
- (B) The reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim in issue is an obvious variation of the invention defined in a claim in the patent."

The rejection does not make clear the differences, or the reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim in issue is an obvious variation of the invention defined in a claim in the patent.

In any event, in view of the present cancellation of claims in view of replacement claims, it is respectfully submitted that the present rejection has been rendered moot and therefore withdrawal is appropriate. In the event that a double-patenting rejection is applied to the replacement claims, Applicant respectfully

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submits that the above analysis should be provided in order for the Examiner to satisfy his/her initial burden to support the rejection.

EXAMINER INVITED TO TELEPHONE

The Examiner is herein invited to telephone the undersigned attorneys at the local Washington, D.C. area telephone number of 703/312-6600 for discussing any Examiner's Amendments or other suggested actions for accelerating prosecution and moving the present application to allowance.

RESERVATION OF RIGHTS

It is respectfully submitted that any and all claim amendments and/or cancellations submitted within this paper and throughout prosecution of the present application are without prejudice or disclaimer. That is, any above statements, or any present amendment or cancellation of claims (all made without prejudice or disclaimer), should not be taken as an indication or admission that any objection/rejection was valid, or as a disclaimer of any scope or subject matter. Applicant respectfully reserves all rights to file subsequent related application(s) (including reissue applications) directed to any/all previously claimed limitations/features which have been subsequently amended or cancelled, or to any/all limitations/features not yet claimed, i.e., Applicant continues (indefinitely) to maintain no intention or desire to dedicate or surrender any limitations/features of subject matter of the present application to the public.

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CONCLUSION

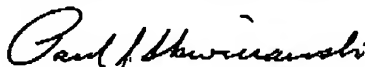
In view of the foregoing amendments and remarks, Applicant respectfully submits that the claims listed above as presently being under consideration in the application are now in condition for allowance.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR '1.136. Authorization is herein given to charge any shortage in the fees, including extension of time fees and excess claim fees, to Deposit Account No. 01-2135 (Case No. 520.42565CX1) and please credit any excess fees to such deposit account.

Based upon all of the foregoing, allowance of all presently-pending claims is respectfully requested.

Respectfully submitted,

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